UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,013	02/13/2002	James J. Fallon	8011-16	7350

7590 05/24/2005

F. Chau & Associates, LLP
Suite 501
1900 Hempstead Turnpike
East Meadow, NY 11554

EXAMINER	
HOQUE, NASRIN	
ART UNIT	**PAPER NUMBER**
2631	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/076,013	FALLON ET AL.	
	Examiner	Art Unit	
	Hoque Nasrin	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/13/2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-9,11 and 13-17* is/are rejected.

7)☒ Claim(s) *4,10 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa et al. by (US Patent No 5,191,431).

Regarding claim 1, Hasegawa discloses that a signal compression unit employs two units for a mode changeover, and a unit for tracking control and a unit for recording compressed signal. It also illustrates that a first mode compression unit compresses at first compression rate while second mode compression unit compresses at second compression rate and the second compression ratio is higher than the first one (Hasegawa: column 7 lines 65-68 and column 8 lines 1-27).

Regarding claim 3, Hasegawa further discloses that diverse signal processing rates can be used (Hasegawa: column 3 lines 25-64 and Column 4, lines 39-60).

3. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Kamatani (US Patent 5,982,723). Regarding claim 11, Kamatani discloses that a data system is

used for compression and decompression of data, allowing predetermined data compression while data is compressed at selected compress rate (Kamatani: column 1, line 68 and column 4, lines 1 -12, Fig 2, blocks S2, S4 and S3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Ando (US Patent 6,104,389). Regarding claim 2, Hasegawa discloses all the subject matters mentioned above (as applied to claim 1) except the limitations of compression being supported by symmetric and asymmetric routines. Ando discloses (Ando: column 6, lines 4-8) that a method of data compression can be supported by using Huffman coding (i.e. asymmetrical) and Lempel-Ziv coding (i.e. symmetric). The references (Hasegawa and Ando) are analogous art because they are from same field of endeavor for data reconstruction. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that implementation of different compression routines would allow desirable applications. The motivation for doing so would have to support effective noise free compression technique (Ando, column 6,line

8, & lines 22-25). Therefore it would have been obvious to combine above (Hasegawa and Ando) references to obtain the invention as specified in claim 2.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Kadnier (US Patent No 6097520). Regarding claim 5, Hasegawa discloses all the subject matters mentioned above (as applied to claim 1) except the limitation of supporting user selected compression activity. Kadnier discloses that a user-selected command (Kadier: column 2 lines 14-17, column 19, lines 60-67, & column 20, lines 1-14) can be supported for compression (Kadier: column 9, lines40-43 and column 13, lines 9-11). The references (Hasegawa and Kadnier) are analogous art because they are from same field of endeavor for data reconstruction. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that user designated activity can be supported by processing user selected command. The motivation for doing so would have to support universally accepted format for user-selected commands (Kadnier: column 1, lines 40-47). Therefore it would have been obvious to combine above (Hasegawa and Ando) references to obtain the invention as specified in claim 5.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Kamatani (US Patent 5,982,723). Regarding claim 6, Hasegawa discloses all the subject matters mentioned above (as applied to claim 1) except the limitation of processing user command to compress user defined data and select a

compression routine based on user provided data. Kamatani discloses that based on operator's specification, data compressed at different rates (Kamatani: column 1, line 68 and column 4, lines 1 -12). The references (Hasegawa and Kamatani) are analogous art because they are from same field of data reconstruction. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that improved data reproduction method can be achieved by supporting different compression rates. The motivation for doing so would have to provide more flexibility in the field of compression and reproduction of data (Kamatani: column 1, lines 46-49). Therefore it would have been obvious to combine above (Hasegawa and Kamatani) references to obtain the invention as specified in claim 6.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Lipasti (US Patent No 6,487,640). Regarding claim 7, Hasegawa discloses all the subject matters mentioned above (as applied to claim 1) except the limitation of tracking number of pending requests to a storage device. Lipasti discloses that multiple memory accesses can be supported (Lipasti : Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48).The references (Hasegawa and Lipasti) are analogous art because they are from same field of endeavor for processing all requests to the same storage block. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests can allow improved performance and effective utilization of storage device. The motivation for doing so would have to reduce memory access latency (Lipasti: column 1 lines 60-67). Therefore

it would have been obvious to combine above (Hasegawa and Lipasti) references to obtain the invention as specified in claim 7.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Lipasti (US Patent No 6,487,640). Regarding claim 8, Hasegawa discloses all the subject matters mentioned (above as applied to claim 1) except the limitation of tracking number of pending requests for data transmission over a communication links. Lipasti discloses that multiple memory accesses can be supported (Lipasti : Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48) via various media (Lipsi : column 5 lines 59 – 60 and lines 28 - 33). The references (Hasegawa and Lipasti) are analogous art because they are from same field of endeavor for various data transmission. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests to a storage device can improve the performance of the storage device and signals can be carried over various types of communication links . The motivations for doing so would have been to reduce memory access latency (Lipstick: column 1, lines 60-67) and support various data processing systems (Lipasti: column 5, lines 8-11). Therefore it would have been obvious to combine above (Hasegawa and Lipasti) references to obtain the invention as specified in claim 8.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa in view of Dinan et al. (US Patent No 4,888,812) and Rabin et al. (US Patent

No 5,159,336). Regarding claim 9, Hasegawa discloses all the subject matters claimed (see explanation in paragraph 2 above) except the limitations of receiving data stream at speed which is greater than the storage rate, compressing data at desired compression rate resulting in increased storage device and storing data. Dinan discloses that a system includes a data buffer which servers as receiver and buffer for storing data in the event when the rate of data transfer exceeds the rate at which data storage device can accept (Dinan : Column 3, lines 1-15). Rabin discloses that memory bandwidth can be controlled by modifying compression ratio, (Rabin: Column 2, lines 26-50). The references (Hasegawa, Dinan and Rabin) are analogous art because they are from same field of endeavor for data compression and reconstruction. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that a system capability to handle higher speed data and buffering high speed data would allow to real time monitoring & increased storage device. The motivations for doing so would have to avoid the loss of data (Dinan : Column 3, line 14) and to adjust compression ratio (Rabin: Column 1, lines 55-65). Therefore it would have been obvious to combine above (Hasegawa, Dinan and Rabin) references to obtain the invention as specified in claim 9.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani in view of Kulakowski (Publication No 0587437A2). Regarding claim 13, Kamatani discloses all the subject matters mentioned above (as applied to claim 11) except the limitation of having access profiles. Kulakowski discloses that access profile

can be supported for flexible data compression-decompression procedure (Kulakowski: Fig 11(page 21)& page 12 lines 39-54, Fig 12 (page 21)& page 12 lines 55-59, page 13 lines 1-24 and Fig 13 (page 22) & page 13 lines 25 -32). The references (Kamatani and Kulakowski) are analogous art because they are from same field of endeavor for data compression and decompression. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that compressed data will support good channel utilization and compression efficiency. The motivation for doing so is to provide flexible compression-decompression control for accessed data (Kulakowski : Page 3 lines 40-42 and page 2 lines 25-27).Therefore it would have been obvious to combine above (Kamatani and Kulakowski) references to obtain the invention as specified in claim 13.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani in view of Lipasti (US Patent No 6,487,640). Regarding claim 14, Kamatani discloses all the subject matters mentioned above (as applied to claim 11) except the limitation of tracking number of pending requests to a storage device. Lipasti discloses that multiple memory accesses can be supported (Lipasti: Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48). The references (Kamatani and Lipasti) are analogous art because they are from same field of endeavor for processing all requests to the same storage block. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests can support improved performance and effective utilization of storage device. The motivation for

doing so would have to reduce memory access latency (Lipasti : column 1 lines 60-67 & column 7 lines 44-49). Therefore it would have been obvious to combine above (Kamatani and Lipasti) references to obtain the invention as specified in claim 14.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani in view of Lipasti (US Patent No 6,487,640). Regarding claim 15, Kamatani discloses all the subject matters mentioned (above as applied to claim 11) except the limitation of tracking number of pending requests for data transmission over a communication links Lipasti discloses that multiple memory accesses can be supported (Lipasti :Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48) via various transmission (Lipsi, column5, lines 59 – 60 and 28 and 33). The references (Kamatani and Lipasti) are analogous art because they are from same field of endeavor for various data transmission. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests to a storage device can improve the performance of the storage device and signals can be carried over various types of communication links . The motivations for doing so would have been to reduce memory access latency (Lipasti : column 1 lines 60-67) and support various data processing systems (Lipasti : column 5 lines 8-11). Therefore it would have been obvious to combine above (Kamatani and Lipasti) references to obtain the invention as specified in claim 15.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa. Regarding claim 16, Hasegawa discloses all the subject matters claimed (see explanation in paragraph 2 above) for implementing the method steps into storage device by programming. However, to implement the method steps of Hasegawa by programming would not involve any inventive feature according to the today's computer technology. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to program the method steps of Hasegawa in to the storage device as claimed.

15. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa , Dinan, Rabin. Regarding claim 17, Hasegawa, Dinan, and Rabin discloses all the subject matters claimed (see explanation in paragraph 10 above) for implementing the method steps into storage device by programming. However, to implement the method steps of Hasegawa by programming would not involve any inventive feature according to the today's computer technology. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to program the method steps of Hasegawa in to the storage device as claimed.

Allowable Subject Matter

16. Claims 4, 10, 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matters :

Regarding claim 4, the prior art of record fails to teach " the first compression ratio routine comprises a default asymmetrical algorithm."

Regarding claim 10, the prior art of record fails to teach " the compression rate is al. least equal to the ratio of the input data transmission rate to the data storage rate so as to provide continuos storage of the input digital data stream at the input data transmission rate."

Regarding claim 12, the prior art of record fails to teach " the controller determines that the system throughput falls below a predetermined throughput threshold, the controller commands the data compression engine to use a compression routine providing a faster rate of compression so as to increase the throughput."

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoque Nasrin whose telephone number is 571-272-5948. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PA6IR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DON N. VO
PRIMARY EXAMINER

Nasrin Hoque
Examiner
Art Unit 2631